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# THE MACHINE GUN

IRONSIDE

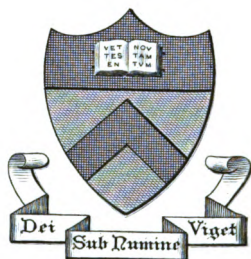


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# THE MACHINE-GUN



# THE MACHINE-GUN

ITS DRILL, SIGNALS, AND  
CONTROL

BY

CAPTAIN H. A. IRONSIDE ✓

8TH (SERVICE) BATTALION LEICESTERSHIRE REGIMENT

SECOND EDITION.

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## INTRODUCTORY

LITTLE information has so far been published in this country regarding the handling of machine - guns in sections, batteries, or brigades. Although the military textbooks clearly show what is generally required of the guns in attack, defence, pursuit, or retreat, there are no particulars given which will insure that the training in each battalion will approximate, and that if the guns are massed the brigade machine-gun officer will find himself with sections trained to work on one system and by one signal code.

During the last few years I have seen several regular and territorial maxim sections at work, and noticed that the nature of the advance, the method of coming into action, and the control, varied in each case, and that the signals used were dissimilar, in consequence of which a brigade officer would have to create a definite system for all the sections before any progress could be made in field training.

At the present time, when numerous battalions of both regulars and territorials are being raised, and territorial officers are being called upon to do more than teach their men in a drill-hall, and gun sections will need to be run in many cases by inexperienced men, it appears necessary to rapid progress that some practical information should be gathered together.

In the following pages I therefore propose to show a system of drill, advance, action, and control, which has been found satisfactory, though it need not be considered perfect, but which will probably be of practical help in the present emergency.

The most useful books at present obtainable on the handling of machine-guns are "The Machine-Gunner's Handbook," by J. Bostock, Quartermaster-Sergeant School of Musketry, and Applin's "Machine-Gun Tactics."

H. A. I.

*September 5, 1914.*

# THE MACHINE-GUN

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## Advantages and Possibilities of Machine-Guns.

PACK transport on horses or mules is the usual form of conveyance for machine-guns, but this method is not by any means universal in the British Army. It is therefore better to put aside the question of transport altogether, and the drill for dismounting the guns from animal or vehicle (particulars of which can be found in the textbooks), but content ourselves with the operations from the moment the guns are placed on the ground ready for the "advance."

It is useless to attempt to employ the maxim-gun on a wheeled carriage in or near the firing position, as it is then far too conspicuous an object. It must never be forgotten that the machine-gun has rifle-range only, and

before employment, must advance a long distance within the artillery danger zone.

*A Section.*—Machine-guns are organized in sections, consisting of :

1 subaltern,  
1 sergeant,  
1 corporal,  
12 privates,  
2 drivers,

---

17 (1 officer),

and handle 2 Maxim-guns. Most officers of experience will, however, agree that to get full value out of these two guns five or six extra men are required, and, if at all possible, and the O.C. is agreeable, this should certainly be arranged.

This particularly applies to sections with waggons, who consequently dare not risk bringing the transport close to the fire position, but must needs carry the gun (weighing over 2 quarters without water), tripod (almost 2 quarters), and ammunition (21 pounds in each box) over considerable distances. It is self-evident that with only light casualties they would often lose their guns from exhaustion, and in a hot action the ammunition-supply could not be maintained.

*Battery.*—A battery consists of four guns—*i.e.*, two sections.

*Brigade.*—Sometimes the eight guns—*i.e.*, four sections—of the four battalions of a brigade are brigaded under a senior machine-gun officer.

### “Dismount Gun.”

Assuming the guns are going into action, they will be dismounted as rapidly as possible alongside the transport which must have reached a position under cover, and be as close to the fire position as possible. If the country is intersected with roads, it is well to keep close to one of them if the detachment has waggons; but they must not remain on the road, or even stop on the road for dismounting the guns, as they may block or delay other traffic.

It will often be found difficult to bring transport under cover close to a fire position, but this cannot be helped, and the guns in such case must be carried the farther; but as rapidity of movement at such a moment may mean everything, the need of the larger gun's crew will be felt. As pointed out again and again in the textbooks, the machine-gun



is "a weapon of opportunity," and knowledge of its proximity must be withheld from the enemy by all possible means, and it will therefore be seen that it is often better to dispense with transport well behind the fire position and advance on foot. Transport will always attract field artillery.

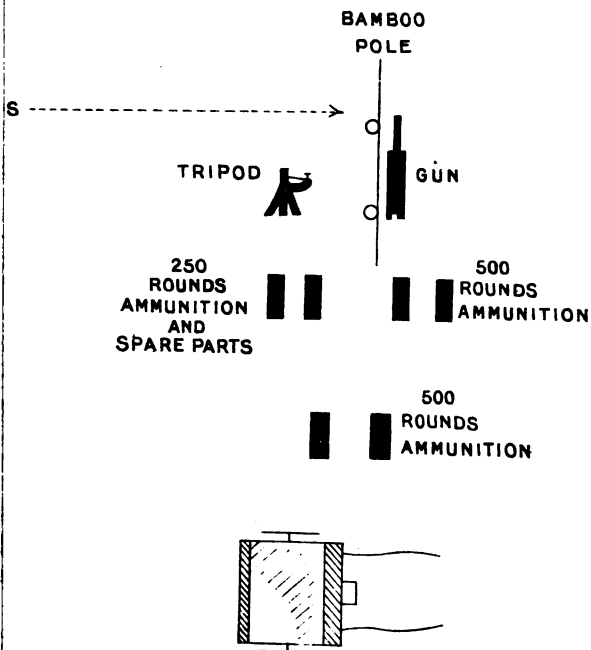
When dismounting, the two guns, tripods, and ammunition should be placed on the ground in the order shown by Diagram I.

The men will then "fall in" in two lines in front of the guns as shown by Diagram II., and at the command "Take Post," double outwards to the guns, Nos. 7, 8, and 9 (scouts and range-finders) falling out to the officer for instructions. This whole proceeding can be dispensed with by the order "Fall in for advance," when each man will go to his post if not already there.

The proceedings will be similar if the section consists of the authorized establishment.

I.

*placed preparatory to the advance.*





## Duties of Non-Com. Officers and Men in Advance and Attack.

### (a) Section consisting of—

- 1 subaltern.
- 1 sergeant.
- 2 corporals.
- 18 privates.
- 2 drivers.

---

- 24 (1 officer).

*The Sergeant* will supervise the firing of the guns; he will remain with and between the guns during the advance. He will take command of the section if the officer is a casualty.

*One Corporal* will remain with the section officer, and will be responsible for the sending and receiving of all signals.

*The other Corporal* will remain with the transport, and will be responsible for the ammunition supply and the proper working of the belt-filling machine.

*Gun Numbers.*—No. 1: Carries tripod, places it in position, and fires the gun. The post of honour for which a lance-corporal's stripe should be given.

No. 2: Carries gun to firing-point with the help of No. 3, and afterwards lies on right side of gun to regulate the ammunition supply and help to observe fire.

No. 3 : Helps No. 2 to carry gun forward to firing-point, for which purpose a light bamboo pole is provided with two leather rings attached towards either end on which to sling the gun. A wide canvas sling over and across the shoulder, and tightened up to the right length, helps the weight thrown on the arm. When No. 3 reaches the firing position, he will hand over the gun to No. 2, and will not help to mount the gun, but will be responsible for the safe keeping of the carrying-pole. His special duty is to act as signal link between the officer and the gun. He will also receive the spare-part's box from No. 4 at the firing-point, and will be ready at any moment should the gun break down to give to No. 1 any part required.

No. 4 : Will bring up one box ammunition (250 rounds) and the spare-part's box, both of which he will hand over to No. 3. He may be used as a signalling link between No. 3 and officer when necessary.

No. 5 : Will carry two boxes ammunition (500 rounds).

No. 6 : Will carry two boxes ammunition (500 rounds).

*Ammunition*, as it is brought up, will be placed close to No. 3, who, with the aid of No. 2, will keep the gun supplied. When sufficient ammunition is at the firing-point, No. 4 should

remain by it, and, when called upon, take same up to the gun. It is important that No. 3 should not have his attention distracted from his important task of watching for signals.

No. 7: Range-finder, who before the advance will obtain instructions from the subaltern, and will prepare range-charts.

Nos. 8 and 9: Scouts, who will also obtain definite instructions from the officer before the advance.

*Note.*—In some cases Nos. 7, 8, and 9 will have already gone forward far in advance of the guns, which will come up in consequence of information received from them.

No. 10: Driver, and will help the ammunition corporal with the belt-filling machine when possible.

It will be found that a section consisting of 16 privates can satisfactorily handle the new light pattern gun, as No. 2 can carry it forward without assistance.

(b) Section consisting of—

- 1 subaltern.
- 1 sergeant.
- 1 corporal.
- 12 privates.
- 2 drivers.
- 
- 17 (1 officer) Home  
Establishment.

*Sergeant.*—Should be conversant with the general situation, and assume command in the event of the officer becoming a casualty. He will supervise the guns coming into action.

*Corporal.*—Responsible for the transport. He will supervise the ammunition supply and the filling of belts.

*Gun Numbers.*—No. 1: Carries tripod, places it in position, and fires the gun.

No. 2: Carries the gun into action and mounts it. He will attend to the feeding of the ammunition supply, and will watch for signals from the section officer. When the gun is in action, it will be found that the two duties cannot be performed simultaneously, but everything possible should be done not to miss signals.

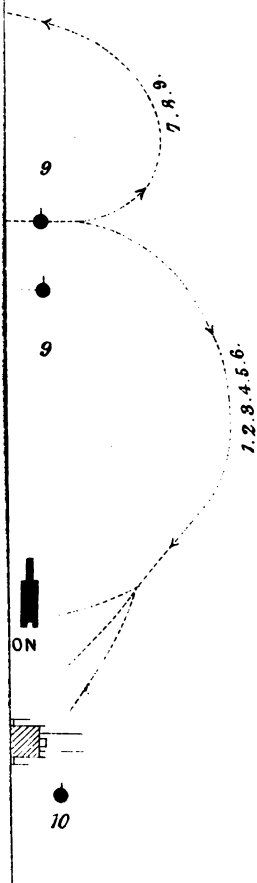
Nos. 3 and 4: Will each bring up two boxes ammunition containing 250 rounds in each box—i.e., 42 pounds each man. As the spare-parts box must also be brought forward, No. 3 must go back for it immediately he has brought up the ammunition.

No. 5: Acts as scout; first of all as ground scout during the advance, and then in such capacity as the officer may decide.

No. 6: Range-taker. He will take ranges as ordered by the section officer. He will prepare range charts.

# E POST."

PORAL







*Drivers.*—Remain with the transport, and must learn to act on signals from the officer. They should be taught to use the belt-filling machine, and when necessary act as ammunition carriers. They must never be far from the transport.

*Note.*—It will be found that the duties of the various numbers have to vary according to the form of transport provided, whether the section consists of seventeen or twenty-four officers and men.

### “Advance.”

It is essential that the advance of machine-guns is unknown to the enemy, and nowadays, with aerial observers, this is more difficult than formerly.

When the ground gives almost complete frontal cover, advance in extended order is best, both to minimize the possibility of casualties and also to appear to be infantry reserves or scouts to aerial observers.

It is often easier to reach a position unseen by an advance in file. The detachment can be fairly widely separated.

*Extended formation.*—This should not be used where a file formation can reach a close

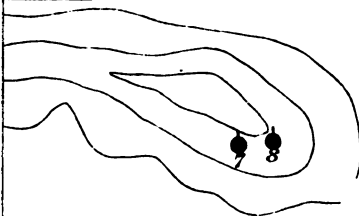
position unobserved, which, with its narrow front, it is often able to do. This formation gives the appearance of lines of skirmishers, particularly when in battery or brigade; and the gun, hanging close to the ground between Nos. 2 and 3, is scarcely visible, particularly in long grass or bracken.

If aerial observers are in the vicinity, it is necessary that some foliage be tied on the gun, but this must be instantly removable, as otherwise it will be found to interfere with the sighting.

### **“Action.”**

Before the guns have been brought thus far it is assumed that the section officer, sergeant, scouts, and range-finders, having already reconnoitred the enemy's position, have found a target, or what may eventually prove one, or that there is a fleeting opportunity which must be seized. In some cases, particularly when a target is likely to show itself, it is better, having got so far, for the guns to remain just below the fire positions chosen, and the officer alone, for the sake of secrecy, to keep watch. At his signal the guns must be rushed up, and come straight into action as directed. Guns of a section should not at

**ation.**



**A**

**9 ● B**

♂ **OFFICER**  
 ○ **CORPORAL**

**C**

^ **1**

**2** ●  
 [Gun Icon]  
 ● **3**

**D**

**RG'T.**

● **4**

● **5**

● **6**

**C. OFFICER AND CORPORAL.**

**NS.**

*be 800 or 1,000 yards in front of the Guns.*



any time be closer than 25 yards, or farther apart than about 100 yards if acting together, and, where possible, should not be on the same alignment.

It will be seen from Diagram V. that in this case the advance was made from behind some slightly rising ground and that the officer, before taking up his observation post, dealt with his section as follows :

The guns were halted behind chosen positions. Ranges were taken to various points, and the ground scouts withdrawn from the front and placed on the flanks, which is also now the range-taker's position.

At the word, or signal "Action," the guns are mounted, and No. 1 without further orders loads the gun and directs it upon the target, if already known, or as directed ; and at the range given by his officer. No. 2 will raise his hand to show when the gun is ready. The officer will signal through the medium of the signal corporal when to fire, the corrections, and when to cease fire, etc.

Should a sudden attack be made on the flank one or both guns will instantly, without orders if need be, change front, and, if necessary, take up better positions, which, when possible, should be previously selected.

## Control.

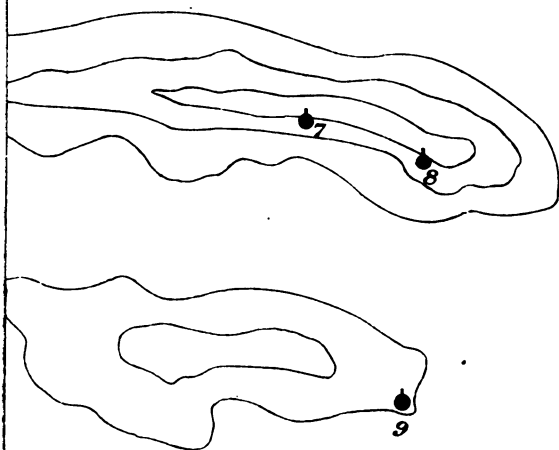
It is absolutely necessary that every man should not only know his particular duty and his particular place in advance, action, or retirement, but be prepared to fill casualties. This latter is done by the next higher number stepping into the breach. For instance, if No. 1 is put out of action No. 2 takes his place and No. 3 takes No. 2, and so right along the line, except that No. 10 must never leave his post with the transport further than to help bring up ammunition at a critical stage.

It must therefore be understood that men must, as far as possible, keep in touch with their next number and do all in their individual power to see that the gun is kept in action.

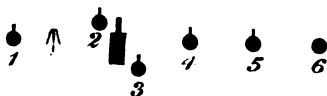
Control rests with the officer in charge, but he can only keep in touch by signals which are readily understood by all and passed on by those responsible. If the section is ill-trained, his best place is with the guns, although better observation of fire can be made well on a flank. As he cannot watch fire effect and give necessary corrections at the same time, the corporal signaller is made responsible for passing and receiving mes-

# M IV.

nded Order.



PORAL



RG'T

*ncing in extended order resembles  
seen at a distance.*





sages. The officer's observation post though on a flank should not, when possible, be on the same alignment as the guns. The signaller should be well out of sight and should never use flags, except for long-distance semaphore signalling, but simply use his arms.

The sergeant in charge of the guns will observe the fire and correct right or left deflection. When he is not in a position to see both guns, No. 3 of the one gun will pass on the correction to No. 3 of the other gun.

No signals, however, must be sent when signallers are not entirely hidden from the enemy, and in the cases where the two No. 3's cannot see one another they must either arrange for one of the scouts or range-finders to remain in a favourable position to act as a connecting link, or the message must be taken personally to the other gun, if it can be done so under cover.

No. 3 must never remain close to the gun, but must take cover in sight of it, if possible within fifteen yards, and be ready to fill the post of No. 2 on the gun in the event of a gun casualty. No two men must at any time cluster, and should try not to bunch in the same alignment.

When the officer observes from his position

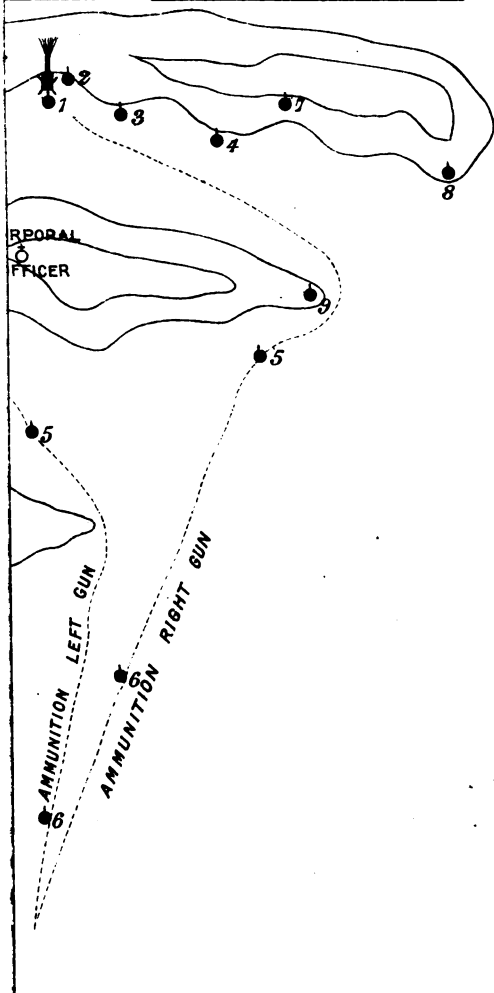
that the beaten zone is over or under the target 50 or 100 yards, etc., he will instruct his signaller to inform the guns, and they in turn will alter the sights.

If the signaller from his position is not in direct sight of one of the guns he must send the message by connecting signaller. This is one of the duties of No. 4. Diagram VI. shows how the rising ground (A B) prevents No. 3 of the right gun seeing his section officer or signaller. Communication is, however, kept up by signal link in the shape of No. 4 of the right gun, who is in direct touch.

Sometimes several links will be found necessary, but scouts should not be withdrawn from important duties; rather, the officer should find a closer position to the gun if it does not seriously interfere with observation of fire and of the tactical position.

In thick undergrowth messages must be sent verbally, but in such cases control is necessary close against the guns, or actually with them. Field-glasses are apt to catch the sun's rays and attract the enemy's attention, and it is therefore better for observers neither to be close to guns nor in the same alignment with them.

# M V. Shewing a Section in Action.





When not otherwise occupied, men should busy themselves constructing cover, which may save many casualties from shrapnel. All men should lie down when possible.

### Signals.

The only signals which are in more or less general use with machine-gun sections are those shown in "Infantry Training, 1914," p. 212, but one or two of these are somewhat vague, and are therefore omitted. It is, moreover, necessary that these should be elaborated, and a regular infantry unit I watched in the field a few months ago had a very extensive code. Codes of signals can, however, be too extensive, and signals should be limited to essentials, as otherwise in action the whole control would break down. Control by signal is not so necessary in sections, but vital in battery or brigade, and must therefore be steadily practised.

Whatever the code, it must be such that it cannot be read by others as a semaphore message, and this can be covered by single signs meaning certain words. No flags should be used for gun signals; the arm is sufficient.

Beyond this all must understand :

1. Signals for control of fire.
2. Infantry extended order drill (" Infantry Training, 1914 ").
3. Semaphore, should be thoroughly known by the signal corporal and a selected number who show aptitude. This is necessary in order to keep in touch with signallers of the main force. When possible all should know semaphore signalling.

### Signals for Control of Fire.

When necessary, but not otherwise, one blast on the whistle will draw attention.

*"Action"*: The guns to be mounted and prepared to fire. Both arms fully extended, raised from the sides to a position in line with the shoulders, and lowered again.

*"Prepare to fire"*: Officer's hand raised.

*"Fire"*: Officer's hand dropped.

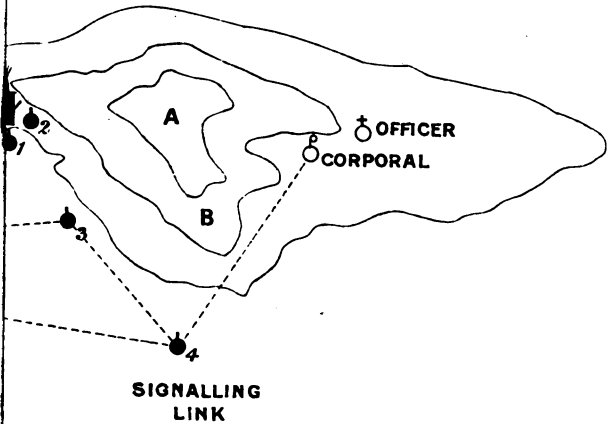
*"Cease fire"*: Open hand passed from side to side, palm down.

### Gun Signals.

The following signs will be found simple, and as far as possible the signal is the prefix

## VI.

necting links.



*er cannot see No. 3 from the Observation  
he can keep in touch with both.*





letter of the word, the letters being those used in the semaphore alphabet :

A. "*Abandon*"—*i.e.*, retire from the guns temporarily—after removal of the lock, feed-block, ammunition, and spare parts.

B. "*Battery*," when the unit comprises two sections—*i.e.*, four guns; or "*Brigade*," when the unit comprises four sections—*i.e.*, eight guns; or "*Section*," when the unit only comprises two guns.

When the officer wishes to speak to only half his command—*i.e.*, half section, battery, or brigade—he will still use the signal "B," afterwards dropping the arm to the thigh and raising it again. When signalling only half the unit, it must be preceded by the letter "R" or "L" to denote the right or left half.

C. "*Centre*," or "*Correct*," when referring to fire direction.

"D. "*Deliberate*" fire—*i.e.*, continuous single shots used for obtaining range without betraying the presence of machine-guns. Only possible when there is no hurry, and seldom used.

E. "*Envelope*" or "*Rapid*"—*i.e.*, bursts of from thirty to fifty shots in continuous groups.

F. "*Failure*": Gun to officer, if serious breakdown.

G. "*Group*": Grouping, or ranging fire—i.e., ten or twenty shots.

(The above comprises the first circle of the semaphore alphabet.)

R. } When fire is observed 50 yards to  
      " *Right* " or " *Left* ."

L. } Two R's, etc., mean 100 yards, etc.

M. "*Minus*": Fire observed 50 yards short of target. Two M's mean 100 yards, etc.

P. "*Plus*": Fire observed 50 yards beyond the target. Two P's mean 100 yards, etc.

T. "*Traversing Fire*."

U. "*Unload*": Preparatory to retirement.

### Extended Order Drill Signals.

To these should be added signals to indicate the following (see "*Machine-Gun Tactics*," p. 38):

"*Prepare for Cavalry*": Arm swung round and round with a circular motion.

"*Artillery within range*": Cap raised and lowered on head several times.

*"Good gun position"*: Rifle held out in front at arm's length, and gripped at centre, barrel upmost. Body turned sideways so that signal may be seen from the rear.

In actual practice, except in defence, it will usually be found that the guns will have to be brought up with a rush to seize a fleeting opportunity, when the only orders would be "Action," "Envelop," followed by corrections of range or deflection, instructions to traverse, or temporarily abandon to take cover.

On the other hand, the controlling officer must never use more guns than will suffice to attain his object, for if more are used only the same result will have been obtained, whilst the enemy will probably have gained knowledge of the strength and position of all the guns.

When in sections, both guns will as a rule be used.

After being in action, the guns when possible should be instantly moved to other positions, already selected, when this can be arranged. The new positions should be in a new alignment. There is need, however, not to do this unnecessarily, as during the operation some new opportunity may be missed.

It is sometimes safer to remove first one gun and then the other, or half the battery or brigade.

After leaving a covered position, it is useful for one or two of the men to creep up with discs on sticks (somewhat larger than the end of the water-jacket), and place these where the guns were, together with other sticks and discs painted khaki. The best place is just behind a moving branch or waving grass, as it will be found at a distance that the khaki appears to be moving and not the branch. When the necessary effect cannot be produced through lack of wind, a piece of string carried to cover will produce it. If these dummies are shown some distance from the real fire position and not on the same alignment, it will draw the whole of the enemy's fire. If it does not, it proves conclusively that the enemy also cannot see the actual guns which are in better cover.

Several tricks of this nature should be practised in peace, as it must not be overlooked that although the enemy may hear the unmistakable rattle of the Maxim, it is often quite impossible to grasp where it is, which particularly applies to hilly country.

When the guns are in battery, and only

half the guns are wanted with a rush, the signals would be :

“Right” ; “Half Battery” ; “Action” ; “Envelop.”

If the guns are brigaded, and only four are immediately wanted, the signals would be exactly the same, as would be the case when only wanting “half section,” which latter, however, is unusual.

If half the battery is to cease fire, and retire preparatory to covering the retirement of the other guns, the signals would be :

“Right or left” ; “Half battery” ; “Cease fire” ; “Unload” ; “Retire.” Several other combinations are possible, as, for example :

1. “Battery” ; “Traverse.”
2. “Brigade” ; “Fire observed 100 yards beyond target”—i.e., reduce 100.
3. “Right” ; “Half battery” ; “Rapid,” followed by preparatory caution, and the dropping of the hand to commence.

### “Retire.”

In the case of machine-guns retiring and hard pressed, perhaps by cavalry, it is unwise to withdraw all the guns together, as a general rule, unless the detachment is equipped with

rapid transport. One or two sections only should fall back, and take up a new position as quickly as possible to cover the other guns' retirement, and the men with rifles should keep up as lively a fire as possible to help delay the enemy. The officer will send to the nearest infantry commander asking for support. Positions taken up should, when possible, command roads, footpaths, open ground, or bridges. If the enemy is driven into the rough country, they will be materially delayed.

### **Batteries and Brigades.**

It must be clearly understood that everything mentioned in these notes applies equally to a section, battery, or brigade, except that in the larger units control centres in a specially selected officer who imparts his orders to the section officers, who in turn control their section.

It is most important that officers inform all their men what is intended and what to expect. The men of a machine-gun detachment are specially selected for, amongst other qualifications, intelligence, and this cannot be applied unless knowledge of the operations is

imparted. Intelligence and resource must be developed, and made full use of by the officer.

The guns need not necessarily be brigaded; in fact it is often better that they should not be, and that each section should be supporting its own battalion. In a final attack the guns are, however, often brigaded so that the concentrated fire of all available guns may be directed over the heads of the advancing troops to sweep the enemy's trenches, and so help to assure a successful assault.

Sometimes half the guns will go forward with the main advance, and the other half will remain with the reserves, so that the general officer commanding can use them if necessary at some critical point of the line as the battle develops. In this event it will be found most practical to have the reserve guns well forward, as it is easier for the infantry reserves to be rushed up to the critical point than for the machine-guns, which have probably abandoned their transport.

The moment the enemy's position is taken every means must be secured to get the guns up to the top, to throw a withering fire on the retiring enemy before it is able to re-form, or to prevent a successful cavalry counter-



attack. If there is no natural protection for the guns, the position should be immediately entrenched, in case the advance cannot be continued. The whole detachment will be used to bring up the guns and ammunition with all speed.

The advance of a battery or brigade and all other necessary formations will be carried out in exactly the same way as if it consisted of a section only (see Diagram VII.).

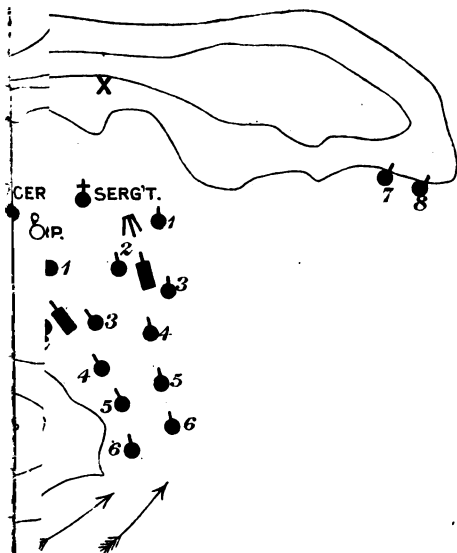
### Progressive Training.

Before the guns are taken out in the field all the men should have a complete knowledge of the mechanism, names of parts, and be quickly able to repair the lock or other parts of the gun. Jams should be instantly recognizable, and rectified in a few seconds.

Next, it is necessary to have continuous practice in coming into action on all conditions of ground, whilst during the whole period of preliminary training the men should be practised in signalling, and lectures should be given on the uses of the machine-gun and the methods of its employment in the field. This will develop the intelligence of the men,

41

tion ready reconnoitred.



and that the Commander is

en.



who will understand more readily the essential conditions for its employment in subsequent field work.

There are two methods practised at the present time when coming into action, the most usual being that described on p. 83 of "The Machine-Gunner's Handbook"; but the following is more rapid, as it obviates the delay caused when trying to drive home the cross-head joint and elevating pins. Much valuable time is thrown away in this operation. By the latter method the bracket of the tripod (Mark IV.) with the cross-head and elevating wheel is *left attached to the gun*. When No. 1 goes forward with the tripod he places the back leg on the ground, thus balancing the tripod, loosens the clamps, seizes the two front legs, and lets the tripod gently down until he sees the cross-head is level, thus ensuring that when the gun is placed upon it the sights will be upright. No. 2 will by this time have disconnected the bamboo pole (which is left with No. 3), and advances with the gun and drops the cone of the bracket (which, as explained above, is attached to the gun) into the hole for its reception in the tripod. By attaching the bracket to the gun the weight of this part is increased, but as the gun is in

any case too heavy for one man, it helps to subdivide the total weight of gun and tripod into about equal parts between Nos. 1, 2, and 3. It moreover gives No. 1 a lighter load, which is in itself sound, seeing it is he who will have to fire the gun, and should therefore be as fresh as possible.

The next progressive step in training is practice with ball cartridge, which is the most important work of all. This should not be attempted prematurely, or accidents may happen. Every gun varies more or less, and if the sight is set at a specified range it is safe to say that in nine cases out of ten a correction will have to be made to insure that the target is hit. Presumably guns are correct when first issued, but they alter with wear, and it will be found that when the sight is placed at, say 1,000 yards, the beaten zone is perhaps 100 yards over or under the target. Guns should therefore all be tested on known ranges, and the sergeant should note in the section-book the necessary corrections up or down at each 100 yards. A card should always go with the gun, as although Nos. 1 and 2 will certainly know the necessary corrections, this may not be so in the case of the higher numbers, who, in the event of casualties, will

need to fire the gun. No. 2 should call out the corrections to No. 1.

Again, the weight of the fusee spring and recoil should be tested and re-tested, as the working of the gun will, with use, continually alter. It is not sufficient to learn, parrot fashion, that the weight of the fusee spring should be 5 to 7 pounds, and of recoil 4 pounds. Often the spring must be several pounds heavier. If the springs are not set at the weight necessary for each individual gun, it will cause continuous jams or prevent the rapid and smooth working of the gun, which alone gives the necessary confidence and steadiness to the gunner.

When in the field it is also necessary to practice range-finding, entrenching, building sand-bag emplacements, and night firing.

With regard to the latter it may be mentioned that, supposing the enemy are landing in boats, or crossing open ground at known ranges, and that the area is swept by searchlights, it is quite impossible to see the tangent sight scale, or even the fore-sight, as a rule. This is particularly marked when searchlights are being employed, which only aggravate the darkness elsewhere. It is therefore absolutely necessary to keep a lighted lantern always

standing below the gun ready to shine upon the tangent sight. This should be a dark lantern with only one glass, and the light should not be strong, but, in any case, at night, the unmistakable rattle of the Maxim and the continuous flash from the barrel will be very quickly seen by the enemy.

By studying the various diagrams it will be noticed that the men are posted on a definite plan, so that on all occasions, and under all conditions, they may readily be found. This is essential, and was largely what prompted the compilation of these notes, as unless both officers and men know where the various numbers can be instantly found, there can be no real control of a Maxim section, and one or two casualties will reduce all to chaos. Casualties should be assiduously practised to teach men to keep in touch with their next number, and instantly know what duty is expected of each. It will be noticed by studying the diagrams that Nos. 1, 2, and 3 are at or near the gun, and No. 4 within hail of No. 3. (These numbers insure the proper working of the gun.)

No. 5 carries ammunition about one-third of the distance from the transport, and keeps in touch with No. 4.

No. 6 carries the ammunition for another one-third of the journey, and so keeps in touch with No. 5.

Even when the distance from the gun to the transport is short, the same duties should be performed. Should the gun advance, the distances are simply increased proportionately for each man.

Should it be impossible to advance transport, and the distance becomes very great, or ammunition numbers are called off to fill casualties, the drivers Nos. 10 should help with the work where possible. If this is out of question, the ammunition corporal should send for the scouts as a last resource.

No. 7 is the range-finder, and is always found on the front in advance, or when posted on the flank is the most forward scout.

Nos. 8 and 9 are either on the front or flank, as ordered by the officer.

No. 10, driver, and when possible helps with ammunition.

This formation is claimed to be simple and readily understood by all, and spells efficiency. If the smaller section has to be employed, a similar system must be devised to suit the number of men.



In conclusion it is necessary to point out that all men must show initiative, and be ready to act as circumstances dictate. Much happens in action which cannot be specially provided for by system, and when, through some cause, no orders are received on the gun, men must act on their own responsibility and *real opportunities must never be missed*. If, therefore, an opportunity presents itself it must be seized, but by just sufficient guns to accomplish the object in view. Guns which are slow in starting must not waste ammunition, which is of such vital importance, in trying to catch up a lost opportunity, but must gauge from the importance of the target whether they are still required. They must learn to understand what constitutes a *real opportunity*.

By studying these notes it is hoped that the principles laid down in the textbooks may be further developed by officers and men, to whom they equally apply, and may be of some practical service in the rapid training to efficiency of machine-gun sections.

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